Having, thus, described the invention, what is claimed is:

1. A bi-directional damper valve for connecting to a hydraulic line to regulate fluid flow therethrough, said damper valve comprising:

a main valve body having a longitudinal axis and having an axial flow passage formed therethrough which widens at central portion of the valve body to form a central chamber with first and second valve seats formed at opposite ends of said central chamber,

said main valve body also having first and second bypass channels formed therein which are adapted for selective placement in fluid communication with said flow passage, said first bypass channel branching off the central chamber inside of said first valve seat, and said second bypass channel branching off the central chamber inside of said second valve seat;

first and second poppets disposed in said central chamber and facing in opposite directions, said first and second poppets being substantially identical to one another and having respective hollow bores formed therethrough to allow fluid flow at a first rate through the valve; and

a spring extending between said first and second poppets and normally biasing the poppets against their respective valve seats;

wherein said damper valve is configured so that when fluid pressure, greater than the biasing force of said spring, displaces one of said poppets from its associated valve seat, fluid is allowed to flow through the damper valve at a second rate which is greater than the first rate.

2. The damper valve of claim 1, wherein said valve body is configured so that opposite end

portions of the axial flow passage are flared outwardly in opposite directions to form enlarged-diameter portions.

3. The damper valve of claim 2, wherein said main valve body is configured so that said axial flow passage tapers substantially conically outwardly between said valve seats and said enlarged diameter portions.

4. The damper valve of claim 1, wherein each of said poppets comprises a tapered end seal portion with a central bore formed therein, a substantially cylindrical skirt integrally attached to the end seal portion, and a hollow central tube integrally attached to the end seal portion and in fluid communication with the central bore, wherein said skirt and said central tube define a cylindrical recess therebetween.

5. The damper valve of claim 1, wherein said spring is a cylindrical coil spring.

6. The damper valve of claim 1, wherein said main valve body is made from a plurality of pieces assembled together.

7. A power steering system for a vehicle, comprising a fluid line having the damper valve of claim 1 connected in fluid communication therewith.

8. A damper valve for connecting to a hydraulic line to regulate fluid flow therethrough, said damper valve comprising:

a main valve body having a longitudinal axis and having an axial flow passage formed therethrough, said flow passage including a first end portion having a first diameter, a first intermediate portion connected to the first end portion and having a second diameter which is smaller than the first diameter, and an enlarged-diameter central chamber connected to the first intermediate portion;

said flow passage further having a second intermediate portion connected to the central chamber opposite the first intermediate portion and having a diameter substantially equal to the second diameter, said flow passage further having a second end portion connected to the second intermediate portion and having a diameter substantially equal to the first diameter,

wherein a first valve seat is defined between said central chamber and said first intermediate portion, and a second valve seat is defined between said central chamber and said second intermediate portion;

said main valve body also having first and second bypass channels formed therein and selectively placeable in fluid communication with said flow passage, said first bypass channel branching off the flow passage inside of said first valve seat, and said second bypass channel branching off the flow passage inside of said second valve seat;

a first poppet disposed within the hollow chamber of said valve body, said first poppet having a hollow body with a first end for sealing placement against the first valve seat and a second end opposite said first end and with an opening formed therein, said first poppet having a hollow bore formed therethrough to allow fluid flow at a first rate through the poppet, said first

poppet further having a spring seat formed internally inside said first end;

a second poppet disposed in the hollow chamber of said valve body and oriented substantially opposite said first poppet, said second poppet being substantially identical to the first poppet and having a first end for sealing placement against the second valve seat;

a spring disposed in the chamber of said valve body and having a first end engaging said first poppet and seated on the spring seat thereof to bias said first poppet against said first valve seat to resist fluid flow through said first bypass channel, said spring having a second end engaging said second poppet and seated on the spring seat thereof to bias said second poppet against said second valve seat to resist fluid flow through said second bypass channel.

9. The damper valve of claim 8, wherein said main valve body is configured so that said axial flow passage tapers substantially conically outwardly at respective areas thereof between said intermediate portions and said end portions.

10. The damper valve of claim 8, wherein each of said poppets comprises a tapered end seal portion with a central bore formed therein, a substantially cylindrical skirt integrally attached to the end seal portion, and a hollow central tube integrally attached to the end seal portion and in fluid communication with the central bore, wherein said skirt and said central tube define a cylindrical recess therebetween, said cylindrical recess defining a spring seat.

11. The damper valve of claim 8, wherein said spring is a cylindrical coil spring.

12. The damper valve of claim 8, wherein said main valve body wherein said main valve body is made from a plurality of pieces assembled together.

13. A power steering system for a vehicle, comprising a fluid line having the damper valve of claim 8 connected in fluid communication therewith.

14. A method of damping oscillation in a fluid line, comprising the steps of:

allowing fluid in a first pressure range to flow at a first flow rate through a damper valve via bores formed through two opposed poppets in the damper valve, wherein said damper valve is connected in fluid communication with said fluid line; and

unseating one of said poppets from a valve seat in said damper valve to allow fluid to enter a bypass channel and flow at a second rate greater than the first rate, when fluid pressure is greater than an upper limit of said first pressure range.

15. The method of claim 14, wherein said method is operable in two directions of flow through said damper valve.

16. The method of claim 14, wherein said fluid line is part of a power steering system in a vehicle.